SEQUENCE LISTING

<110> KAZUSA DNA RESEARCH INSTITUTE FOUNDATION; Institute for Biomedical Research and Innovation
Hisashi Koga et al.

<120> NOVEL PLEXIN POLYPEPTIDE, DNA ENCODING THE SAME AND USE THEREOF

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<141> 2006-03-23

<150> JP 2003-371040
<151> 2003-10-30

<150> JP 2004-229871
<151> 2004-08-05

<160> 24

<170> PatentIn version 3.1

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Gln His Lys Leu Gly Phe Val Arg Ala Phe Leu His Pro Ala Val Pro
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Pro His Ser Ala Gln Pro Tyr Ala Tyr Leu Ala Leu Asn Ser Glu Ala
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<213> mouse

<400> 11

Glu Met Gly Cys Gly Arg Gly Leu His Gly Ala Ala Pro Gly Leu Ser
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Ala Ser Pro Glu Ser Gly Arg Gly Ala Gly Ala Gly Gly Gly Arg Arg
20 25 30

Gly Gln Glu Ala Pro Arg Gly Pro Gly Pro Pro Pro Ala Ser Arg Arg
35 40 45

Leu Arg Ala Pro Gly Ser Arg Pro Arg Arg Ala Pro Cys Thr Arg Arg
50 55 60

Ala Ala Gln Pro Ala Leu Ala Trp Met Ala Arg Arg Ala Ala Gly Gly
65 70 75 80

Ala Pro Pro Ser Ala Arg Ala Ala Ala Ala Val Pro Leu Arg Pro Arg
85 90 95

Pro His Ser Arg Gly Pro Gly Leu Leu Pro Leu Pro Leu Leu Leu Leu
100 105 110

Leu Gly Ala Ala Arg Ala Gly Ala Leu Glu Ile Gln Arg Arg Phe Pro
115 120 125

Ser Pro Thr Pro Thr Asn Asn Phe Ala Leu Asp Gly Thr Ala Gly Thr
130 135 140

Val Tyr Leu Ala Ala Val Asn Arg Leu Tyr Gln Leu Ser Ser Ala Asn
145 150 155 160

Leu Ser Leu Glu Ala Glu Ala Thr Val Gly Pro Val Pro Asp Ser Pro
165 170 175

Leu Cys His Ala Pro Gln Leu Pro Gln Ala Ser Cys Glu His Pro Arg
180 185 190

Arg Leu Thr Asp Asn Tyr Asn Lys Ile Leu Gln Leu Asp Pro Gly Gln
195 200 205

Gly Leu Val Val Ala Cys Gly Ser Ile Tyr Gln Gly Leu Cys Gln Leu
210 215 220

Arg Arg Arg Gly Asn Ile Ser Ala Leu Ala Val Ser Phe Pro Pro Ala
225 230 235 240

Ala Pro Thr Ala Glu Pro Val Thr Val Phe Pro
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<211> 24
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<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic oligonucleotide forward primer

<400> 12
caccatgggc tgtgggcgtg gtct 24

<210> 13
<211> 26
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<220>
<223> Description of Artificial Sequence: Synthetic oligonucleotide reverse

primer 1

<400> 13
tcaggcctcg ctgtaacact catga 26

<210> 14
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<220>
<223> Description of Artificial Sequence: Synthetic oligonucleotide reverse primer 2

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<400> 15

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Gly Gln Glu Ala Pro Arg Gly Pro Gly Pro Pro Pro Ala Ser Arg Arg
35 40 45

Leu Arg Ala Pro Gly Ser Arg Pro Arg Arg Ala Pro Cys Thr Arg Arg
50 55 60

Ala Ala Gln Pro Ala Leu Ala Trp Met Ala Arg Arg Ala Ala Gly Gly
65 70 75 80

Ala Pro Pro Ser Ala Arg Ala Ala Ala Ala Val Pro Leu Arg Pro Arg
85 90 95

Pro His Ser Arg Gly Pro Gly Leu Leu Pro Leu Pro Leu Leu Leu Leu
100 105 110

Leu Gly Ala Ala Arg Ala Gly Ala Leu Glu Ile Gln Arg Arg Phe Pro
115 120 125

Ser Pro Thr Pro Thr Asn Asn Phe Ala Leu Asp Gly Thr Ala Gly Thr
130 135 140

Val Tyr Leu Ala Ala Val Asn Arg Leu Tyr Gln Leu Ser Ser Ala Asn
145 150 155 160

Leu Ser Leu Glu Ala Glu Ala Thr Val Gly Pro Val Pro Asp Ser Pro
165 170 175

Leu Cys His Ala Pro Gln Leu Pro Gln Ala Ser Cys Glu His Pro Arg
180 185 190

Arg Leu Thr Asp Asn Tyr Asn Lys Ile Leu Gln Leu Asp Pro Gly Gln
195 200 205

Gly Leu Val Val Ala Cys Gly Ser Ile Tyr Gln Gly Leu Cys Gln Leu
210 215 220

Arg Arg Arg Gly Asn Ile Ser Ala Leu Ala Val Ser Phe Pro Pro Ala
225 230 235 240

Ala Pro Thr Ala Glu Pro Val Thr Val Phe Pro Ser Met Leu Asn Val
245 250 255

Ala Ala Asn His Pro Asn Ala Ser Thr Val Gly Leu Val Leu Pro Pro
260 265 270

Thr Ser Gly Thr Gly Gly Ser Arg Leu Leu Val Gly Ala Thr Tyr Thr
275 280 285

Gly Phe Gly Ser Ala Phe Phe Pro Arg Asn Arg Ser Leu Glu Asp His
290 295 300

Arg Phe Glu Asn Thr Pro Gln Ile Ala Ile Arg Ser Leu Asp Ala Arg
305 310 315 320

Gly Asp Leu Ala Lys Leu Phe Thr Phe Asp Leu Asn Pro Ser Asp Asp
325 330 335

Asn Ile Leu Lys Ile Lys Gln Gly Ala Lys Glu Gln His Lys Leu Gly
340 345 350

Phe Val Arg Ala Phe Leu His Pro Ala Val Pro Pro His Ser Ala Gln
355 360 365

Pro Tyr Ala Tyr Leu Ala Leu Asn Ser Glu Ala Arg Ala Gly Asp Lys
370 375 380

Asp Ser Gln Ala Arg Ser Leu Leu Ala Arg Ile Cys Leu Pro Arg Gly
385 390 395 400

Ala Gly Gly Asp Ala Lys Lys Leu Thr Glu Ser Tyr Ile Gln Leu Gly
405 410 415

Leu Gln Cys Ala Gly Gly Ala Gly Arg Gly Asp Leu Tyr Ser Arg Leu
420 425 430

Val Ser Val Phe Pro Ala Arg Glu Gln Phe Phe Ala Val Phe Glu Arg
435 440 445

Pro Gln Gly Ala Pro Gly Ala Arg Asn Ala Pro Ala Ala Leu Cys Ala
450 455 460

Phe Arg Phe Asp Asp Val Gln Ala Ala Ile Arg Ala Ala Arg Thr Ala
465 470 475 480

Cys Phe Val Glu Pro Ala Pro Asp Val Val Ala Val Leu Asp Ser Val
485 490 495

Val Gln Gly Thr Gly Pro Ala Cys Glu Ser Lys Arg Asn Ile Gln Leu
500 505 510

Gln Pro Glu Gln Leu Asp Cys Gly Ala Ala His Leu Gln His Pro Leu
515 520 525

Thr Ile Leu Gln Pro Leu Arg Ala Ser Pro Val Phe Arg Ala Pro Gly
530 535 540

Leu Thr Ala Val Ala Val Ala Ser Ala Asn Asn Tyr Thr Ala Val Phe
545 550 555 560

Leu Gly Thr Ala Thr Gly Arg Leu Leu Lys Ile Ser Leu Asn Glu Ser
565 570 575

Met Gln Val Val Ser Arg Arg Val Leu Thr Val Ala Tyr Gly Glu Pro

580 585 590

Val His His Val Met Gln Phe Asp Pro Met Asp Pro Gly Tyr Leu Tyr
595 600 605

Leu Met Thr Ser His Gln Met Ala Arg Val Lys Val Ala Ala Cys Glu
610 615 620

Val His Ser Thr Cys Gly Asp Cys Val Gly Ala Ala Asp Ala Tyr Cys
625 630 635 640

Gly Trp Cys Thr Leu Glu Thr Arg Cys Thr Leu Gln Gln Asp Cys Thr
645 650 655

Asn Ser Ser Gln Pro His Phe Trp Thr Ser Ala Ser Glu Gly Pro Ser
660 665 670

Arg Cys Pro Ala Met Thr Val Leu Pro Ser Glu Ile Asp Val His Arg
675 680 685

Asp Tyr Thr Gly Met Ile Leu Gln Ile Ser Gly Ser Leu Pro Ser Leu
690 695 700

Ser Gly Met Glu Met Ala Cys Asp Tyr Gly Asn Gly Val Arg Thr Val
705 710 715 720

Ala Arg Val Pro Gly Pro Ala Tyr Asp His Gln Ile Ala Tyr Cys Asn
725 730 735

Leu Leu Pro Arg Ala Gln Phe Pro Ser Phe Pro Ala Gly Gln Asp His
740 745 750

Val Thr Val Glu Met Ser Val Arg Val Lys Gly His Asn Ile Val Ser
755 760 765

Ala Asn Phe Thr Ile Tyr Asp Cys Ser Arg Ile Gly Gln Val Tyr Pro
770 775 780

His Thr Ala Cys Thr Ser Cys Leu Ser Thr Gln Trp Pro Cys Ser Trp
785 790 795 800

Cys Ile Gln Leu His Ser Cys Val Ser Asn Gln Ser Gln Cys Gln Asp
805 810 815

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Ser Pro Asn Pro Thr Ser Pro Gln Asp Cys Pro Gln Ile Leu Pro Ser
            820                 825                 830

Pro Leu Ala Pro Val Pro Thr Gly Gly Ser Gln Asp Ile Leu Val Pro
        835                 840                 845

Leu Thr Lys Ala Thr Phe Phe His Gly Ser Ser Leu Glu Cys Ser Phe
    850                 855                 860

Gly Leu Glu Glu Ser Phe Glu Ala Val Trp Ala Asn Asn Ser Leu Val
865                 870                 875                 880

Arg Cys Asn Gln Val Val Leu His Thr Thr Gln Lys Ser Gln Val Phe
                885                 890                 895

Pro Leu Ser Leu Lys Leu Lys Gly Pro Pro Asp Arg Phe Leu Asp Ser
            900                 905                 910

Pro Asn Pro Met Thr Val Val Val Tyr Asn Cys Ala Met Gly Ser Pro
        915                 920                 925

Asp Cys Ser Gln Cys Leu Gly Arg Glu Asp Leu Gly His Leu Cys Val
    930                 935                 940

Trp Asn Asp Gly Cys Arg Leu Arg Gly Pro Leu Gln Pro Leu Pro Gly
945                 950                 955                 960

Thr Cys Pro Ala Pro Glu Ile Arg Ala Ile Glu Pro Leu Ser Gly Pro
                965                 970                 975

Leu Asp Gly Gly Thr Leu Leu Thr Ile Arg Gly Arg Asn Leu Gly Arg
            980                 985                 990

Arg Leu Ser Asp Val Ala His Gly  Val Trp Ile Gly Ser  Val Ala Cys
        995                 1000                1005

Glu Pro  Leu Ala Asp Arg Tyr  Thr Val Ser Glu Glu  Ile Val Cys
    1010                1015                1020

Ala Thr  Gly Pro Ala Ala Gly  Ala Phe Ser Asp Val  Val Thr Val
    1025                1030                1035
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Asn Val Ser Lys Glu Gly Arg Ser Arg Glu Gln Phe Ser Tyr Val
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Leu Pro Thr Val His Ser Leu Glu Pro Ser Met Gly Pro Lys Ala
1055 1060 1065

Gly Gly Thr Arg Ile Thr Ile His Gly Ser Asp Leu Asn Val Gly
1070 1075 1080

Ser Met Leu Gln Val Leu Val Asn Asp Thr Asp Pro Cys Thr Asp
1085 1090 1095

Leu Thr Arg Thr Ala Thr Ser Ile Thr Cys Thr Val Pro Gly Gly
1100 1105 1110

Thr Leu Pro Ser Pro Val Pro Val Cys Val Arg Phe Glu Ser Arg
1115 1120 1125

Gly Cys Val His Gly Asn Leu Thr Phe Trp Tyr Met Gln Asn Pro
1130 1135 1140

Val Ile Thr Ala Ile Ser Pro Gly Arg Ser Pro Val Ser Gly Gly
1145 1150 1155

Arg Thr Ile Thr Val Ala Gly Glu Arg Phe His Met Val Gln Asn
1160 1165 1170

Val Ser Met Ala Val His His Ile Gly Arg Glu Pro Thr Phe Cys
1175 1180 1185

Lys Val Leu Asn Ser Thr Leu Ile Thr Cys Pro Ser Pro Gly Ala
1190 1195 1200

Leu Ser Asn Ala Ser Ala Pro Val Asp Phe Phe Ile Asn Gly Arg
1205 1210 1215

Ala Tyr Ala Asp Glu Ala Ala Glu Glu Leu Leu Asp Pro Ala Glu
1220 1225 1230

Ala Gln Arg Gly Ser Arg Phe Arg Leu Asp Tyr Leu Pro Asn Pro
1235 1240 1245

Gln Phe Ser Thr Ala Lys Arg Glu Lys Trp Ile Lys His His Pro
1250 1255 1260

Gly Glu Pro Leu Thr Leu Val Ile His Lys Glu Gln Asp Ser Leu
1265 1270 1275

Gly Leu Glu Ser His Glu Tyr His Ile Lys Ile Gly Gln Val Ser
1280 1285 1290

Cys Asp Ile Gln Ile Ile Ser Asp Arg Val Ile His Cys Ser Val
1295 1300 1305

Asn Glu Ser Leu Gly Thr Ala Glu Gly Gln Leu Pro Ile Thr Ile
1310 1315 1320

Gln Val Gly Asn Phe Asn Gln Thr Ile Ala Thr Leu Gln Leu Gly
1325 1330 1335

Gly Ser Glu Thr Ala Ile Val Val Ser Ile Val Ile Cys Ser Val
1340 1345 1350

Leu Leu Leu Leu Ser Val Val Ala Leu Phe Val Phe Cys Thr Lys
1355 1360 1365

Ser Arg Arg Ala Glu Arg Tyr Trp Gln Lys Thr Leu Leu Gln Met
1370 1375 1380

Glu Glu Met Glu Ser Gln Ile Arg Glu Glu Ile Arg Lys Gly Phe
1385 1390 1395

Ala Glu Leu Gln Thr Asp Met Thr Asp Leu Thr Lys Glu Leu Asn
1400 1405 1410

Arg Ser Gln Gly Ile Pro Phe Leu Glu Tyr Lys His Phe Val Thr
1415 1420 1425

Arg Thr Phe Phe Pro Lys Cys Ser Ser Leu Tyr Glu Glu Arg Tyr
1430 1435 1440

Val Leu Pro Ser Lys Thr Leu Asn Ser Gln Gly Gly Ser Pro Pro
1445 1450 1455

Gln Glu Thr His Pro Leu Leu Gly Glu Trp Asn Ile Pro Glu His

1460 1465 1470

Cys Arg Pro Ser Met Glu Glu Gly Ile Ser Leu Phe Ser Ser Leu
1475 1480 1485

Leu Asn Asn Lys His Phe Leu Ile Val Phe Val His Ala Leu Glu
1490 1495 1500

Gln Gln Lys Asp Phe Ala Val Arg Asp Arg Cys Ser Leu Ala Ser
1505 1510 1515

Leu Leu Thr Ile Ala Leu His Gly Lys Leu Glu Tyr Tyr Thr Ser
1520 1525 1530

Ile Met Lys Glu Leu Leu Val Asp Leu Ile Asp Ala Ser Ala Ala
1535 1540 1545

Lys Asn Pro Lys Leu Met Leu Arg Arg Thr Glu Ser Val Val Glu
1550 1555 1560

Lys Met Leu Thr Asn Trp Met Ser Ile Cys Met Tyr Gly Cys Leu
1565 1570 1575

Arg Glu Thr Val Gly Glu Pro Phe Phe Leu Leu Leu Cys Ala Ile
1580 1585 1590

Lys Gln Gln Ile Asn Lys Gly Ser Ile Asp Ala Ile Thr Gly Lys
1595 1600 1605

Ala Arg Tyr Thr Leu Asn Glu Glu Trp Leu Leu Arg Glu Asn Ile
1610 1615 1620

Glu Ala Lys Pro Arg Asn Leu Asn Val Ser Phe Gln Gly Cys Gly
1625 1630 1635

Met Asp Ser Leu Ser Val Arg Ala Met Asp Thr Asp Thr Leu Thr
1640 1645 1650

Gln Val Lys Glu Lys Ile Leu Glu Ala Phe Cys Lys Asn Val Pro
1655 1660 1665

Tyr Ser Gln Trp Pro Arg Ala Glu Asp Val Asp Leu Glu Trp Phe
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Ala Ser Ser Thr Gln Ser Tyr Val Leu Arg Asp Leu Asp Asp Thr
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Ser Val Val Glu Asp Gly Arg Lys Lys Leu Asn Thr Leu Ala His
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Tyr Lys Ile Pro Glu Gly Ala Ser Leu Ala Met Ser Leu Thr Asp
1715 1720 1725

Lys Lys Asp Ser Thr Leu Gly Arg Val Lys Asp Leu Asp Thr Glu
1730 1735 1740

Lys Tyr Phe His Leu Val Leu Pro Thr Asp Glu Leu Val Glu Pro
1745 1750 1755

Lys Lys Ser His Arg Gln Ser His Arg Lys Lys Val Leu Pro Glu
1760 1765 1770

Ile Tyr Leu Thr Arg Leu Leu Ser Thr Lys Gly Thr Leu Gln Lys
1775 1780 1785

Phe Leu Asp Asp Leu Phe Lys Ala Ile Leu Ser Ile Arg Glu Asp
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Lys Pro Pro Leu Ala Val Lys Tyr Phe Phe Asp Phe Leu Glu Glu
1805 1810 1815

Gln Ala Glu Lys Arg Gly Ile Ser Asp Pro Asp Thr Leu His Ile
1820 1825 1830

Trp Lys Thr Asn Ser Leu Pro Leu Arg Phe Trp Val Asn Ile Leu
1835 1840 1845

Lys Asn Pro Gln Phe Val Phe Asp Ile Glu Lys Thr Asp His Ile
1850 1855 1860

Asp Ala Cys Leu Ser Val Ile Ala Gln Ala Phe Ile Asp Ala Cys
1865 1870 1875

Ser Ile Ser Asp Leu Gln Leu Gly Lys Asp Ser Pro Thr Asn Lys
1880 1885 1890

Leu Leu Tyr Ala Lys Glu Ile Pro Glu Tyr Arg Lys Thr Val Gln
1895 1900 1905

Arg Tyr Tyr Lys Gln Ile Gln Asp Met Thr Pro Leu Ser Glu Gln
1910 1915 1920

Glu Met Asn Ala His Leu Ala Glu Glu Ser Arg Lys Tyr Gln Asn
1925 1930 1935

Glu Phe Asn Thr Asn Val Ala Met Ala Glu Ile Tyr Lys Tyr Ala
1940 1945 1950

Lys Arg Tyr Arg Pro Gln Ile Met Ala Ala Leu Glu Ala Asn Pro
1955 1960 1965

Thr Ala Arg Arg Thr Gln Leu Gln His Lys Phe Glu Gln Val Val
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1985 1990 1995

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ctgttcactg tttcaggctg ctcagcacac attgggagag gtggccatat cccagaacac 6360

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caggctgggg gttcctggcc ccaggaaagg gaggaaggcg aggatgcagg gctgtagctg 6600

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<213> mouse genome

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ccca 484

<210> 18
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<212> PRT
<213> mouse

<400> 18

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Ser Pro Glu Ser Gly Arg Gly Ala Gly Ala Gly Gly Gly Arg Arg Gly
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Gln Glu Ala Pro Arg Gly Pro Gly Pro Pro Pro Ala Ser Arg Arg Leu
35 40 45

Arg Ala Pro Gly Ser Arg Pro Arg Arg Ala Pro Cys Thr Arg Arg Ala
50 55 60

Ala Gln Pro Ala Leu Ala Trp Met Ala Arg Arg Ala Ala Gly Gly Ala
65 70 75 80

Pro Pro Ser Ala Arg Ala Ala Ala Ala Val Pro Leu Arg Pro Arg Pro
85 90 95

His Ser Arg Gly Pro Gly Leu Leu Pro Leu Pro Leu Leu Leu Leu Leu
100 105 110

Gly Ala Ala Arg Ala Gly Ala Leu Glu Ile Gln Arg Arg Phe Pro Ser
115 120 125

Pro Thr Pro Thr Asn Asn Phe Ala Leu Asp Gly Thr Ala Gly Thr Val
130 135 140

Tyr Leu Ala Ala Val Asn Arg Leu Tyr Gln Leu Ser Ser Ala Asn Leu
145 150 155 160

Ser Leu Glu Ala Glu Ala Thr Val Gly Pro Val Pro Asp Ser Pro Leu
165 170 175

```
Cys His Ala Pro Gln Leu Pro Gln Ala Ser Cys Glu His Pro Arg Arg
            180                 185                 190

Leu Thr Asp Asn Tyr Asn Lys Ile Leu Gln Leu Asp Pro Gly Gln Gly
        195                 200                 205

Leu Val Val Ala Cys Gly Ser Ile Tyr Gln Gly Leu Cys Gln Leu Arg
    210                 215                 220

Arg Arg Gly Asn Ile Ser Ala Leu Ala Val Ser Phe Pro Pro Ala Ala
225                 230                 235                 240

Pro Thr Ala Glu Pro Val Thr Val Phe Pro Ser Met Leu Asn Val Ala
                245                 250                 255

Ala Asn His Pro Asn Ala Ser Thr Val Gly Leu Val Leu Pro Pro Thr
            260                 265                 270

Ser Gly Thr Gly Gly Ser Arg Leu Leu Val Gly Ala Thr Tyr Thr Gly
        275                 280                 285

Phe Gly Ser Ala Phe Phe Pro Arg Asn Arg Ser Leu Glu Asp His Arg
    290                 295                 300

Phe Glu Asn Thr Pro Glu Ile Ala Ile Arg Ser Leu Asp Ala Arg Gly
305                 310                 315                 320

Asp Leu Ala Lys Leu Phe Thr Phe Asp Leu Asn Pro Ser Asp Asp Asn
                325                 330                 335

Ile Leu Lys Ile Lys Gln Gly Ala Lys Glu Gln His Lys Leu Gly Phe
            340                 345                 350

Val Arg Ala Phe Leu His Pro Ala Val Pro Pro His Ser Ala Gln Pro
        355                 360                 365

Tyr Ala Tyr Leu Ala Leu Asn Ser Glu Ala Arg Ala Gly Asp Lys Asp
    370                 375                 380

Ser Gln Ala Arg Ser Leu Leu Ala Arg Ile Cys Leu Pro Arg Gly Ala
385                 390                 395                 400
```

Gly Gly Asp Ala Lys Lys Leu Thr Glu Ser Tyr Ile Gln Leu Gly Leu
405 410 415

Gln Cys Ala Gly Gly Ala Gly Arg Gly Asp Leu Tyr Ser Arg Leu Val
420 425 430

Ser Val Phe Pro Ala Arg Glu Gln Phe Phe Ala Val Phe Glu Arg Pro
435 440 445

Gln Gly Ala Pro Gly Ala Arg Asn Ala Pro Ala Ala Leu Cys Ala Phe
450 455 460

Arg Phe Asp Asp Val Gln Ala Ala Ile Arg Ala Ala Arg Thr Ala Cys
465 470 475 480

Phe Val Glu Pro Ala Pro Asp Val Val Ala Val Leu Asp Ser Val Val
485 490 495

Gln Gly Thr Gly Pro Ala Cys Glu Ser Lys Arg Asn Ile Gln Leu Gln
500 505 510

Pro Glu Gln Leu Asp Cys Gly Ala Ala His Leu Gln His Pro Leu Thr
515 520 525

Ile Leu Gln Pro Leu Arg Ala Ser Pro Val Phe Arg Ala Pro Gly Leu
530 535 540

Thr Ala Val Ala Val Ala Ser Ala Asn Asn Tyr Thr Ala Val Phe Leu
545 550 555 560

Gly Thr Ala Thr Gly Arg Leu Leu Lys Ile Ser Leu Asn Glu Ser Met
565 570 575

Gln Val Val Ser Arg Arg Val Leu Thr Val Ala Tyr Gly Glu Pro Val
580 585 590

His His Val Met Gln Phe Asp Pro Met Asp Pro Gly Tyr Leu Tyr Leu
595 600 605

Met Thr Ser His Gln Met Ala Arg Val Lys Val Ala Ala Cys Glu Val
610 615 620

```
His Ser Thr Cys Gly Asp Cys Val Gly Ala Ala Asp Ala Tyr Cys Gly
625                 630                 635                 640

Trp Cys Thr Leu Glu Thr Arg Cys Thr Leu Gln Gln Asp Cys Thr Asn
                645                 650                 655

Ser Ser Gln Pro His Phe Trp Thr Ser Ala Ser Glu Gly Pro Ser Arg
            660                 665                 670

Cys Pro Ala Met Thr Val Leu Pro Ser Glu Ile Asp Val His Arg Asp
        675                 680                 685

Tyr Thr Gly Met Ile Leu Gln Ile Ser Gly Ser Leu Pro Ser Leu Ser
    690                 695                 700

Gly Met Glu Met Ala Cys Asp Tyr Gly Asn Gly Val Arg Thr Val Ala
705                 710                 715                 720

Arg Val Pro Gly Pro Ala Tyr Asp His Gln Ile Ala Tyr Cys Asn Leu
                725                 730                 735

Leu Pro Arg Ala Gln Phe Pro Ser Phe Pro Ala Gly Gln Asp His Val
            740                 745                 750

Thr Val Glu Met Ser Val Arg Val Lys Gly His Asn Ile Val Ser Ala
        755                 760                 765

Asn Phe Thr Ile Tyr Asp Cys Ser Arg Ile Gly Gln Val Tyr Pro His
    770                 775                 780

Thr Ala Cys Thr Ser Cys Leu Ser Thr Gln Trp Pro Cys Ser Trp Cys
785                 790                 795                 800

Ile Gln Leu His Ser Cys Val Ser Asn Gln Ser Gln Cys Gln Asp Ser
                805                 810                 815

Pro Asn Pro Thr Ser Pro Gln Asp Cys Pro Gln Ile Leu Pro Ser Pro
            820                 825                 830

Leu Ala Pro Val Pro Thr Gly Gly Ser Gln Asp Ile Leu Val Pro Leu
        835                 840                 845

Thr Lys Ala Thr Phe Phe His Gly Ser Ser Leu Glu Cys Ser Phe Gly
```

```
    850                 855                 860

Leu Glu Glu Ser Phe Glu Ala Val Trp Ala Asn Asn Ser Leu Val Arg
865                 870                 875                 880

Cys Asn Gln Val Val Leu His Thr Thr Gln Lys Ser Gln Val Phe Pro
                885                 890                 895

Leu Ser Leu Lys Leu Lys Gly Pro Pro Asp Arg Phe Leu Asp Ser Pro
            900                 905                 910

Asn Pro Met Thr Val Val Val Tyr Asn Cys Ala Met Gly Ser Pro Asp
        915                 920                 925

Cys Ser Gln Cys Leu Gly Arg Glu Asp Leu Gly His Leu Cys Val Trp
    930                 935                 940

Asn Asp Gly Cys Arg Leu Arg Gly Pro Leu Gln Pro Leu Pro Gly Thr
945                 950                 955                 960

Cys Pro Ala Pro Glu Ile Arg Ala Ile Glu Pro Leu Ser Gly Pro Leu
                965                 970                 975

Asp Gly Gly Thr Leu Leu Thr Ile Arg Gly Arg Asn Leu Gly Arg Arg
            980                 985                 990

Leu Ser Asp Val Ala His Gly Val  Trp Ile Gly Ser Val  Ala Cys Glu
        995                 1000                1005

Pro Leu  Ala Asp Arg Tyr Thr  Val Ser Glu Glu Ile  Val Cys Ala
    1010                1015                1020

Thr Gly  Pro Ala Ala Gly Ala  Phe Ser Asp Val Val  Thr Val Asn
    1025                1030                1035

Val Ser  Lys Glu Gly Arg Ser  Arg Glu Gln Phe Ser  Tyr Val Leu
    1040                1045                1050

Pro Thr  Val His Ser Leu Glu  Pro Ser Met Gly Pro  Lys Ala Gly
    1055                1060                1065

Gly Thr  Arg Ile Thr Ile His  Gly Ser Asp Leu Asn  Val Gly Ser
    1070                1075                1080
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Met Leu  Gln Val Leu Val Asn  Asp Thr Asp Pro Cys  Thr Asp Leu
    1085                1090                1095

Thr Arg  Thr Ala Thr Ser Ile  Thr Cys Thr Val Pro  Gly Gly Thr
    1100                1105                1110

Leu Pro  Ser Pro Val Pro Val  Cys Val Arg Phe Glu  Ser Arg Gly
    1115                1120                1125

Cys Val  His Gly Asn Leu Thr  Phe Trp Tyr Met Gln  Asn Pro Val
    1130                1135                1140

Ile Thr  Ala Ile Ser Pro Gly  Arg Ser Pro Val Ser  Gly Gly Arg
    1145                1150                1155

Thr Ile  Thr Val Ala Gly Glu  Arg Phe His Met Val  Gln Asn Val
    1160                1165                1170

Ser Met  Ala Val His His Ile  Gly Arg Glu Pro Thr  Phe Cys Lys
    1175                1180                1185

Val Leu  Asn Ser Thr Leu Ile  Thr Cys Pro Ser Pro  Gly Ala Leu
    1190                1195                1200

Ser Asn  Ala Ser Ala Pro Val  Asp Phe Phe Ile Asn  Gly Arg Ala
    1205                1210                1215

Tyr Ala  Asp Glu Ala Ala Glu  Glu Leu Leu Asp Pro  Ala Glu Ala
    1220                1225                1230

Gln Arg  Gly Ser Arg Phe Arg  Leu Asp Tyr Leu Pro  Asn Pro Gln
    1235                1240                1245

Phe Ser  Thr Ala Lys Arg Glu  Lys Trp Ile Lys His  His Pro Gly
    1250                1255                1260

Glu Pro  Leu Thr Leu Val Ile  His Lys Glu Gln Asp  Ser Leu Gly
    1265                1270                1275

Leu Glu  Ser His Glu Tyr His  Ile Lys Ile Gly Gln  Val Ser Cys
    1280                1285                1290
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Asp Ile Gln Ile Ile Ser Asp Arg Val Ile His Cys Ser Val Asn
1295 1300 1305

Glu Ser Leu Gly Thr Ala Glu Gly Gln Leu Pro Ile Thr Ile Gln
1310 1315 1320

Val Gly Asn Phe Asn Gln Thr Ile Ala Thr Leu Gln Leu Gly
1325 1330 1335

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<212> DNA
<213> mouse

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ccgccccccg cctctcgccg cctccgagct cccggctccc ggccgcgccg cgccccatgc 180

actcgccgcg ccgcgcagcc cgcgctcgcc tggatggctc gtcgcgccgc gggcggcgca 240

ccccctagcg cccgggccgc cgcggccgtc cccttgcgtc cgcgccctca ctcgcggggc 300

cctggtctgc tgccgctgcc tctgctgctg ctgctcgggg cggcacgggc cggcgcccta 360

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agcctggaag ccgaggcgac cgtgggtccc gtgccggaca gcccgctgtg tcacgccccg 540

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ctgcagttgg acccgggcca gggtctggtg gtcgcgtgcg gctccatcta ccagggtctg 660

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aacgcgtcca ctgtgggact ggtgctgccg cctacctcgg gcaccggggg cagccgtctg 840

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<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic oligonucleotide primer

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<220>
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<211> 23
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<213> mouse

<400> 22

Glu Thr Ala Ile Val Val Ser Ile Val Ile Cys Ser Val Leu Leu Leu
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Leu Ser Val Val Ala Leu Phe
20

<210> 23
<211> 15
<212> PRT
<213> mouse

<400> 23

Phe Leu Glu Glu Gln Ala Glu Lys Arg Gly Ile Ser Asp Pro Asp
1 5 10 15

<210> 24
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<220>
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<400> 24

Cys Phe Leu Glu Glu Gln Ala Glu Lys Arg Gly Ile Ser Asp Pro Asp
1 5 10 15